



FORAGE EXPORTS FROM THE WESTERN UNITED STATES TO THE PACIFIC RIM

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ABSTRACT

Exports are becoming an important market for the Western United States forage producer. Forage products include: alfalfa hay and cubes, timothy hay, oat hay, sudangrass hay, bermuda hay, and perennial ryegrass and fescue straw. Japan constitutes the largest market and Japan's demand for forage products is playing an increasing role in West Coast markets. In 1995, Japan imported 720 thousand metric tons (mt) of alfalfa cubes, 1.38 million mt (mmt) of baled hay, and 274 thousand mt of alfalfa pellets. The United States supplied approximately 73% of these cubes, 86% of the baled hay, but less than 3% of the pellets. Canada supplied 26%, 6%, and 97% of Japan's imports of alfalfa cubes, hay, and pellets. Overall, the United States supplied about 73% of Japan's total 1995 forage imports (hay, cubes, pellets) of 2.38 mmt. Currently, Taiwan is the second largest forage market in the Pacific Rim, but is not expected to grow very much. Korea, the third largest Pacific rim forage market, will develop slowly and uniformly and eventually become the second largest.

Key Words: exports, cubes, hay, Japan, Korea, Taiwan

INTRODUCTION

Exports are an important market for the Western United States forage producer. Forage products exported are: alfalfa hay and cubes, timothy hay, oat hay, sudangrass hay, bermuda hay, and perennial ryegrass and fescue straw.

Table 1 lists the United States hay exports to the Pacific Rim from December 1994 to November 1995. The countries of China, Singapore, Malaysia, Indonesia, and the Philippines only received 141 containers of hay or 0.2% of the 60,773 containers. Korea was the third largest destination and received 2,388 containers or 3.8% of the total. Taiwan was the second largest destination

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with 3,439 containers or 5.7% of the total. Japan was the largest market at 54,855 containers or 90.3% of all containers shipped. Depending upon the product shipped, containers will carry 10-29 metric tons (mt).

Demand for forage products from Japan is playing an increasing role on West Coast markets, especially in the Pacific Northwest (PNW). In 1995, Japan imported 719,810 mt of alfalfa hay cubes (Table 2). The United States supplies approximately 73% of these alfalfa cubes and Canada about 27%. Baled hay imports for Japan totaled 1,383,794 mt in 1995 (Table 3). Approximately 86% of these hay products came from the United States. Total hay & cube imports for Japan in 1995 totaled 2.104 million metric tons (mmt). The United States shipped approximately 1.717 mmt or 82% of Japan's hay & cube imports that year, while Canada shipped 277,277 mt or 13% of Japan's imports. The United States is not an exporter of alfalfa pellets. Canada supplied over 97% of the 274,160 mt that Japan imported in 1995 (Table 4). The United States supplied about 73% of Japan's total forage imports (hay, cubes, pellets) of 2,377,764 mt in 1995, while Canada supplied 23%.

The United States Department of Commerce west coast export data differs somewhat from the Japanese import data. Generally, import data from Japan gives a better indication of total hay and cube exports from the United States which were 1,717,393 mt in 1995. The significance of the Department of Commerce data is the tonnage exported by geographical location. Department of Commerce data indicate that the PNW share of these exports is about 55% or 944,566 mt in 1995. The Pacific Southwest (primarily California) share of these exports to Japan is approximately 45% or 772,827 mt. But, forage products routinely come from Nevada, Utah, and Arizona to California to be exported. Commerce data also suggest that over 60% of the alfalfa cubes and over 70% of the alfalfa hay exported from the West Coast comes from the PNW. Over 10,576,137 mt of hay were produced in the PNW in 1995. Forage exports represented about 8.9% of total hay production in Washington, Oregon, and Idaho. In the Pacific Southwest, 13,191,595 mt of hay were produced in 1995. Forage exports represented approximately 5.9% of total hay production in this region. Many of these exports are coming from the state of Washington (Tables 5 and 6). In 1995, approximately 567,000 mt of forages were exported from Washington. Hay production in Washington totaled 2,973,802 mt in 1995. While PNW exports in 1995 only represented 8.9% of total hay production and 5.9% in the Pacific Southwest, exports from Washington state represented 19.1%. This is the second year that forage exports from Washington have exceeded \$100 million (Table 7). Forage exports the past nine years have helped support and stabilize forage prices in the PNW even with increasing acreages.

Forage products are shipped to Japan from the United States in 40 foot cargo containers. Canada has been shipping some alfalfa cubes in partial cargo holds of ships (Break-Bulk). This has led to dramatic savings in shipping somewhat at the expense of quality. Bulk alfalfa cubes are handled more severely and more often, which increases breakage and fines. But, the savings in transportation have helped Canada increase its market share of cube exports to Japan. Bulk shipments of cubes have also been made from Washington ports recently. About 90% of the alfalfa cubes shipped to Japan are for dairy cows and 10% for beef cows. Dairy cows also take about 60% of baled hays, and the balance would be split evenly between beef cows and horses. A recent trend has been the shipment of bagged cubes to Japan in containers. Smaller bags are

generally about 30-40 Kg and larger bags are 400-550 Kg. The smaller bags are stacked on a pallet and wrapped with plastic.

Japan has strict import regulations. Sample containers from shipments are transferred to the Japanese Plant Protection and Quarantine (PPQ) yard. If the containers have been fumigated in the United States, PPQ checks for gas residues. If residues are above allowable levels, the containers must then be aerated. Next, PPQ checks for pests and prohibited items. If insects are found, then containers must be fumigated in Japan. Prohibited items include: wheat or barley plants, wheat or barley straw, and any Agropyron grasses. These prohibited items are all hosts for the Hessian fly, which Japan has strict regulations against. If these containers are rejected, then the forage products either have to be destroyed or reshipped back to the United States and/or other destinations. Potentially, this re-shipment can be very expensive to the originator. Soil can also cause some rejections, although this seems to vary by port. Because of these strict import regulations, forage producers need to cooperate with exporters in sending the best quality product possible. Once forage products pass the PPQ process, they then move to market. Cubes are generally unloaded at port warehouses and sacked in 30 Kg or 500 Kg sacks. The smaller sacks are usually loaded on pallets. Baled hay is also sometimes palletized. From warehouses, these forage products move to inland storage or to market. In the interest of saving handling, storage, and transportation costs, many containers are shipped directly to the consumer in Japan. Once forage products are stored or consumed, claims can be received from Japanese buyers against the shipper and/or broker. These claims can be potentially very expensive. Claims can be for: lack of quality, misrepresentation of product, foreign matter contamination, condition (moisture/mold damage), or actually be a market claim (price dislocation). A market claim is when the buyer seeks some price relief due to changes in product prices and/or market conditions.

The United States and Canada will continue to be major suppliers of forage products to Japan. Baled hay exports have dramatically increased during the past 7 years, with the United States supplying the vast majority of products. Alfalfa cube exports from the United States have leveled off and Canada has increased its market share the past few years.

The Korean market is also starting to develop and is now the third largest destination for forage products. Table 8 shows the Korean alfalfa hay, cube, and pellet imports from 1988 - 1995. Currently, hay cubes and pellets dominate the market. In 1995, Canada supplied all of the pellets and about 75 percent of the cubes, with the balance from the United States. Canada has been the low bidder and has supplied most of this new developing market. About 88%^F of the 25,613 mt of imported hay came from the United States in 1995. Approximately 61% of this hay was alfalfa. There was a big difference between 1990 and 1994 in the interest of alfalfa hay and the quality available from the United States. Korea won't become a large importer of United States hay quickly, but a substantial market should develop over the next decade. Korea will displace Taiwan and become the second largest market in the future because of: population, livestock numbers, limited arable land base, and strong economy. The potential size of this market is estimated to be one-quarter to one-third of the Japanese market or 500,000 to 600,000 mt of hay and cubes.

The forage market in Taiwan is now the second largest Pacific Rim consumer for the United States. Table 9 lists the diversity of forage products which Taiwan consumed this past year. Total exports to Taiwan have risen sharply this past year due to crop and weather conditions (Table 10). It is not clear whether these import levels will continue or drop to lower levels in 1996.

Washington and the West Coast forage industry need to recognize the importance of Pacific Rim exports to the forage economy of their areas. The United States needs to promote quality, consistency of product, and cheaper transportation methods to retain and/or increase their market share in a growing world market.

TABLE 1
U.S. HAY EXPORTS - PACIFIC RIM
(12/94 - 11/95)

<u>Country</u>	<u>No. Of Containers</u>	<u>%</u>
Macau	2	
Singapore	2	
Malaysia	5	
Indonesia	20	
Philippines	28	
Hong Kong	84	
<u>Total</u>	<u>141</u>	<u>0.2</u>
Korea	2,338	3.8
Taiwan	3,439	5.7
Japan	54,855	90.3
<u>TOTAL</u>	<u>60,773</u>	<u>100.0</u>

Source: Journal of Commerce

TABLE 2
ALFALFA CUBE IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January - December</u>						
	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
USA	520,545	555,298	553,853	573,427	614,859	540,579	528,196
Canada	150,054	142,623	148,129	175,797	166,904	166,816	189,203
Australia	10,598	14,742	16,824	12,675	8,734	7,337	---
Others	432	711	1,408	1,948	3,429	6,771	2,411
<u>TOTAL</u>	<u>681,629</u>	<u>713,374</u>	<u>720,214</u>	<u>763,847</u>	<u>793,926</u>	<u>721,503</u>	<u>719,810</u>

Source: Zen-Noh, Seattle

TABLE 3
BALED HAY IMPORTS (JAPAN)
Metric Tons

<u>Origin</u>	<u>January - December</u>						
	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
USA	598,683	754,112	905,725	962,898	1,102,849	1,088,711	1,189,197
China	35,821	50,092	60,160	47,449	48,427	63,993	51,101
Australia	30,696	19,640	43,619	46,040	48,930	61,284	48,098
Canada	9,585	10,973	25,232	38,366	39,550	60,721	88,074
Others	4,815	1,854	3,561	4,060	4,860	6,828	7,324
<u>TOTAL</u>	<u>679,600</u>	<u>836,570</u>	<u>1,038,297</u>	<u>1,098,813</u>	<u>1,244,616</u>	<u>1,281,537</u>	<u>1,383,794</u>

Source: Zen-Noh, Seattle

TABLE 4
ALFALFA PELLET IMPORTS (JAPAN)

<u>Metric Tons</u>							
<u>January - December</u>							
<u>Origin</u>	<u>1989</u>	<u>1990</u>	<u>1991</u>	<u>1992</u>	<u>1993</u>	<u>1994</u>	<u>1995</u>
USA	1,081	2,037	1,381	2,072	1,677	5,649	7,384
Canada	129,376	296,065	274,299	292,120	277,341	289,864	266,290
Others	511	112	---	307	612	282	486
TOTAL	<u>260,968</u>	<u>298,214</u>	<u>275,680</u>	<u>294,499</u>	<u>279,630</u>	<u>284,795</u>	<u>274,160</u>

Source: Zen-Noh, Seattle

TABLE 5
WASHINGTON ALFALFA CUBE EXPORTS

<u>Year</u>	<u>Prod. (mt)</u>	<u>Value</u>
1984	79,834	\$11,170,000
1985	74,390	\$10,091,000
1986	144,245	\$17,362,000
1987	139,709	\$16,635,000
1988	219,542	\$30,105,000
1989+	206,842	\$29,640,000
1990+	226,800	\$34,000,000
1991+	195,048	\$25,800,000
1992+	271,253	\$38,870,000
1993+	244,037	\$40,350,000
1994+	258,552	\$41,325,000
1995+*	272,160	\$41,700,000

+Estimated

*Preliminary

Source: WA Ag Statistics & Industry Estimates

TABLE 6
WASHINGTON ALL HAY EXPORTS

<u>Year</u>	<u>Prod. (mt)</u>	<u>Value</u>
1984	68,947	\$11,391,000
1985	72,576	\$10,960,000
1986	81,648	\$12,587,000
1987	102,514	\$14,182,000
1988	144,245	\$19,640,000
1989+	124,916	\$18,038,000
1990+	136,080	\$21,000,000
1991+	173,275	\$28,650,000
1992+	185,976	\$35,875,000
1993+	272,160	\$54,000,000
1994+	283,046	\$62,400,000
1995+*	294,840	\$64,025,000

+Estimated

*Preliminary

Source: WA Ag Statistics and Industry Estimates

TABLE 7
WASHINGTON FORAGE EXPORTS

<u>Year</u>	<u>Tons Exported (mt)</u>	<u>\$ Value</u> (millions)	<u>% of Crop</u> <u>Exported</u>
1984	148,781	22.6	5.6
1985	146,966	21.1	6.2
1986	225,893	30.0	8.8
1987	242,222	30.8	10.2
1988	363,787	49.7	14.2
1989+	332,035	47.8	13.0
1990+	362,880	55.0	13.1
1991+	368,323	54.5	13.7
1992+	457,229	74.7	17.0
1993+	516,197	94.4	20.1
1994+	541,598	103.7	21.4
1995+*	567,000	105.7	19.1

+Estimated

*Preliminary

Source: Wa Ag Statistics and Industry Estimates

TABLE 8
KOREAN FORAGE IMPORTS
Metric Tons

	<u>Pellets*</u>	<u>Cube*</u>	<u>Hay</u>
1988	5,621	1,806	
1989	40,023	6,740	
1990	40,000	10,720	
1991	38,000	29,000	904
1992	38,000	47,000	4,629
1993	38,000	57,000	5,689
1994	57,604	49,321	8,287
1995	77,285	56,000	25,613

Source: National Hay Ass'n. Export Comm.

*Estimated: Categories combined when reported in Korea ²

TABLE 9
U.S. HAY EXPORTS TO TAIWAN
12/94 - 11/95

<u>Type</u>	<u>Containers</u>	<u>%</u>
Alfalfa	1,749	50.9
Bermuda	1,057	30.7
Timothy	300	8.7
Cubes	131	3.8
Oat Hay	115	3.3
Pellets	36	1.0
Ryegrass	32	0.9
Fescue	16	0.5
Sudan	3	0.1
TOTAL	3,439	100.0

Source: Journal of Commerce

TABLE 10
TAIWAN FORAGE IMPORTS
Metric Tons

<u>Year</u>	<u>U.S.</u>	<u>Canada</u>
1989	10,480	---
1990	11,657	---
1991	10,133	29,073
1992	18,277	47,481
1993	19,825	70,311
1994	76,691	66,932
1995	118,344	72,705

Source: Journal of Commerce & Statistics Canada

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